

# Exelon City Solar

Dedicated July 21, 2010

Chicago, Illinois



**Environmental Design  
International inc.**  
*Civil Engineer of Record*





**Project Owner:**  
**Exelon Solar Chicago, LLC**

**Client:**  
**SunPower Corporation, Systems**

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Environmental Design International inc.  
33 West Monroe Street  
Suite 1825  
Chicago, IL 60603  
[www.envdesigni.com](http://www.envdesigni.com)  
312.345.1400



### Introduction

In 2009, Exelon Corporation engaged California-based SunPower Corporation to build a solar power plant on a 41-acre brownfield site in the West Pullman neighborhood on the city's South Side. Two years later, the completed 10-megawatt installation called Exelon City Solar now stands as the nation's largest urban solar power plant, pumping enough electricity into the grid to power the equivalent of an estimated 1,500 homes.

### EDI Provides Multiple Services to SunPower

EDI was originally contracted to provide topographic survey and civil site design plans for this project which involved installing more than 7,000 steel piers required to mount the 32,000 solar panels. Under an aggressive schedule, EDI's scope of work expanded to include the services of nearly every department in the company.

As design and construction of Exelon City Solar ramped up, EDI's role began initially with the Survey Department providing topographic and boundary surveys and the Engineering Department beginning work on a full site design package, stormwater calculations, and ultimately construction and permitting support, as the CAD group drafted the dozens of plans and exhibits required for submissions. The Environmental Department was brought on line just prior to construction to prepare environmental health and safety plans, and their involvement quickly expanded upon the discovery of undocumented underground storage vaults and tanks. EDI's Industrial Hygiene Department also entered the action to manage the presence of asbestos discovered as construction began on site, setting up perimeter and worksite monitoring equipment and procedures to help insure the health and safety of workers and the surrounding community.

Using EDI's single point of contact project management model, streamlined communications between SunPower's Construction Manager, Turner Construction, and multiple departments at EDI facilitated answers to the field as challenges arose due to environmental concerns and scheduling demands.

### Innovation

As a first in an American urban setting, a large brownfield site has been transformed from a multi-faceted blight on a city's landscape to a hallmark of progress as the nation increases its renewable energy capacity. Using low-impact design, EDI labored creatively with the design team of SunPower Corporation to design a solar power plant with minimal disturbance to existing conditions by converting the site's abandoned slabs, foundations, and basements into proposed roads, anchoring points for solar arrays, and stormwater detention vaults.

Solar power continues to make inroads as a viable power producer, with continual advances in efficiency and scale. Exelon City Solar represents a unique application of cutting edge solar technology employed on a large scale in an urban environment. Even over the short course of designing the site layout for Exelon City Solar, SunPower announced that they had designed a new solar panel with increased efficiency that would allow for a reduction of some 300 panels across the site while still meeting the 10-megawatt base load.

The most out-of-the ordinary technology employed by the Exelon City Solar project are the sophisticated solar arrays themselves. SunPower's patented solar cells are not only about 50%





## Project Background

more efficient than conventional solar cells, but the panels rotate to ‘follow’ the sun using a proprietary single-axis design that rotates the panels along with the sun according to programmed algorithms. This rotation of the panels increases the sunlight capture by up to 25% over traditional fixed-tilt solar array systems and allows for higher electricity generation over a smaller footprint.

### Redefining Engineering

Sitting vacant for more than 30 years with significant challenges that made it unattractive to other developers, the 41-acre site upon which Exelon intended to build this high-profile project was in desperate need of being brought back to life. Half of the site was only months from completing a 12-year long environmental remediation effort when EDI first began working with SunPower, and the remaining 20 acres had an a history of industry supporting metal casting manufacturing, and included known rail spurs and fueling depots.

Aside from the visible hazards on the site, which had become an overgrown dumping ground for full drum barrels, tires, and construction debris, there were certain to be unanticipated surprises, all of which would only threaten to delay the ambitious goal of delivering 7.5 of the 10 megawatts of electricity within seven months on a site that hadn’t been cleared, designed, or permitted. In better economic times, perhaps other design and construction team might have walked away from the liability, and the possibility of falling short in delivering such a project in this context. However, the team possessed a heightened level of conviction that turned an otherwise nonviable plot of contaminated land into a harbinger of large scale renewable energy sources for urban communities.

A first of its kind and scope, the bar has been raised as Exelon City Solar demonstrates how the ghosts of a lifeless industry can be revived in the form of sustainable power.

### A Complex Project

Aside from the aggressive construction schedule and environmental issues, the civil site engineering required a design to work with the existing structural remains of the past industries. Typically, one of the first orders of business for a site design is a demolition plan requiring anything deemed an unneeded obstruction to be removed. SunPower’s requirements however forced creative planning around remaining slabs and foundations which at points create abrupt terraced effects, complicating the drainage design and array layouts. A look at the current Google Earth image of the site provides a window to the existing conditions delineated by different shades of ground beneath the rows of solar arrays.

The eastern half of the 41-acre site, formerly owned by Navistar, was nearing the end of a nearly 12-year site remediation effort when construction broke ground on the western end of the site. By the time the array construction had progressed eastward to the edge of the site, Turner Construction was pressing to drill thousands of 4” piers, many into freshly constructed engineered barriers. The very next day after USEPA-contracted environmental engineers officially deemed their 12-year efforts complete, Turner Construction and EDI environmental engineers moved on to the eastern half of the site to manage all ground disturbance proceeded in accordance with Illinois EPA requirements and best management practices. Three undocumented underground storage tanks (UST’s) and several buried basement vaults filled with contaminated fluids were discovered at various locations at the height of construction, threatening to derail an already inflexible schedule. The path of pier installation was able to



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temporarily re-route as EDI environmental staff worked to have the UST's removed as quickly as possible in accordance with Illinois EPA requirements.

As a turnkey project provider to Exelon, SunPower's goal was ultimately to deliver 10-megawatts of electricity at several key milestones. Before the arrays could be installed to produce any electricity the site had to be surveyed, cleared, demolished, permitted, and graded. EDI surveyors, civil engineers, and environmental specialists performed the lead consulting services in all of these critical project phases.

Due to the rigorous stormwater, building codes, and landscaping reviews required by the City, and the fraction of design time typically allotted to even much smaller projects within Chicago, there were periods when EDI and other consultants wrestled with Construction Managers grappling with a site under construction prior to a completed design. Despite these challenging conditions, the project missed no power producing milestones, and today stands as a testament to its success.

### A Team Approach

The Exelon City Solar team performed as a true ensemble dedicated from the outset to the completion of the project milestones. On many occasions, SunPower and the entire team of design consultants labored well into the early morning in attempts to stay ahead of the needs of construction progressing rapidly in the field. As SunPower is a California-based company, they relied heavily on EDI and their other locally-based consultants, and EDI worked closely with SunPower to design a site that met the needs of their proprietary solar arrays.

*Jacobs Ryan Associates* provided landscaping design plans for Exelon City Solar. Working closely with the Alderman, SunPower, Exelon, and the City's Departments of Planning, Forestry, and Roads, Jacobs Ryan navigated the variegated opinions and needs of all stakeholders to ultimately produce a landscape design and fencing plan that provides the garnish to what otherwise might have been a purely utilitarian site.

*Perry and Associates* served as the structural engineers for the entire site, and also as Architect of Record for the distinctive and elegant Operation and Maintenance building that stands at the site entry.

*Turner Construction* served as Construction Managers for the project, and deserve ultimate credit for keeping all of the construction on track to deliver the required power producing milestones – a difficult challenge given that construction on the site needed to proceed prior to the design stage being complete.

### Sustainability

Exelon City Solar is bordered on one side immediately by a residential area. Homes border another side separated only by a commuter rail line. The City of Chicago Alderman who serves the affected neighborhood, has acted as a stalwart on behalf of the residents, relaying that security and aesthetics had long been major issues with this site. The perimeter fence had fallen to disrepair and the acres of overgrown brush and remaining structures provided haven for illegal activities. More than 1.3 miles of new perimeter fencing, much of it decorative wrought iron, now rings the entire site. Subtle, landscaped perimeter berms mask, and at places play



## Project Background

homage to, the remains of an industry that once served the Community and shipped parts for trucks, tractors, and refrigerators around the world.

Chicago's and even the nation's attention was focused frequently on this project, and media reports document the favorable impact of the project to the area. Dannese Flennoy, secretary for a neighborhood group that had worked with project stakeholders, told the Chicago Sun-Times that, "The solar plant has upgraded this community."

The dramatic transformation of the 41-acre brownfield from blight to fully operational solar power plant will positively impact the mood of the community immediately surrounding Exelon City Solar. After decades of living next to acres and acres of a seemingly forgotten, abandoned site that was littered with garbage and hazards, and harboring certain risks to health and safety, this new neighbor is back on the tax rolls. It is also important to note department of sanitation workers are now able to focus on other areas in need, as the attractive Exelon City Solar site is under the 24-hour surveillance and management of SunPower.

From the removal and remediation of actual barrels of liquid waste and other contaminants that had, for years, been dumped across the 41-acres of poorly secured land, to the replacement of vast stretches of damaged fencing with aesthetically pleasing security fencing and surveillance, Exelon City Solar offers an indisputably vast improvement to the health, safety, and welfare of the West Pullman community.

### Public Perception

Most power plant projects encounter a measure of opposition from one source or another. Exelon City Solar is an exception to that rule. Now an income producing, secure, quiet, and attractive addition to the City of Chicago and the West Pullman community, the fact that the plant now offsets the equivalent carbon-dioxide emissions of 2,500 cars is a measurable benefit that citizens can understand. In addition to the income and aesthetic features of the site, since it complies with the City of Chicago's stringent Stormwater Management Program, the existing sewers in the surrounding area should now serve the neighborhood better due to the decrease in the rate of stormwater entering the City's combined sewers during large storm events.

Exelon City Solar includes an Operation and Maintenance (O & M) building at the site entrance. The O&M building is staffed full time and features a lookout platform on its landscaped roof deck. The site is available to visitors upon appointment, and Exelon has plans to host tours.

### Going Forward

While solar power in Illinois isn't as viable as in states where incentives are offered to solar power providers, Exelon City Solar is an important addition to Exelon Corporation's overall power portfolio, which needs to have an increasing portion of its energy come from sustainable sources.

At the formal site dedication on July 21, 2010, attended by Chicago's Mayor Richard M. Daley, neighborhood advocates and political figures, executives from Exelon and SunPower, as well as project team members, and the media, SunPower presented EDI with a plaque noting, "SunPower recognizes Environmental Design International, Inc. for your outstanding contribution to the Exelon City Solar 10MW Power Plant."



Aerial view of site pre-development.



Aerial view of site post development.



**Site before development overgrown and with security issues.**



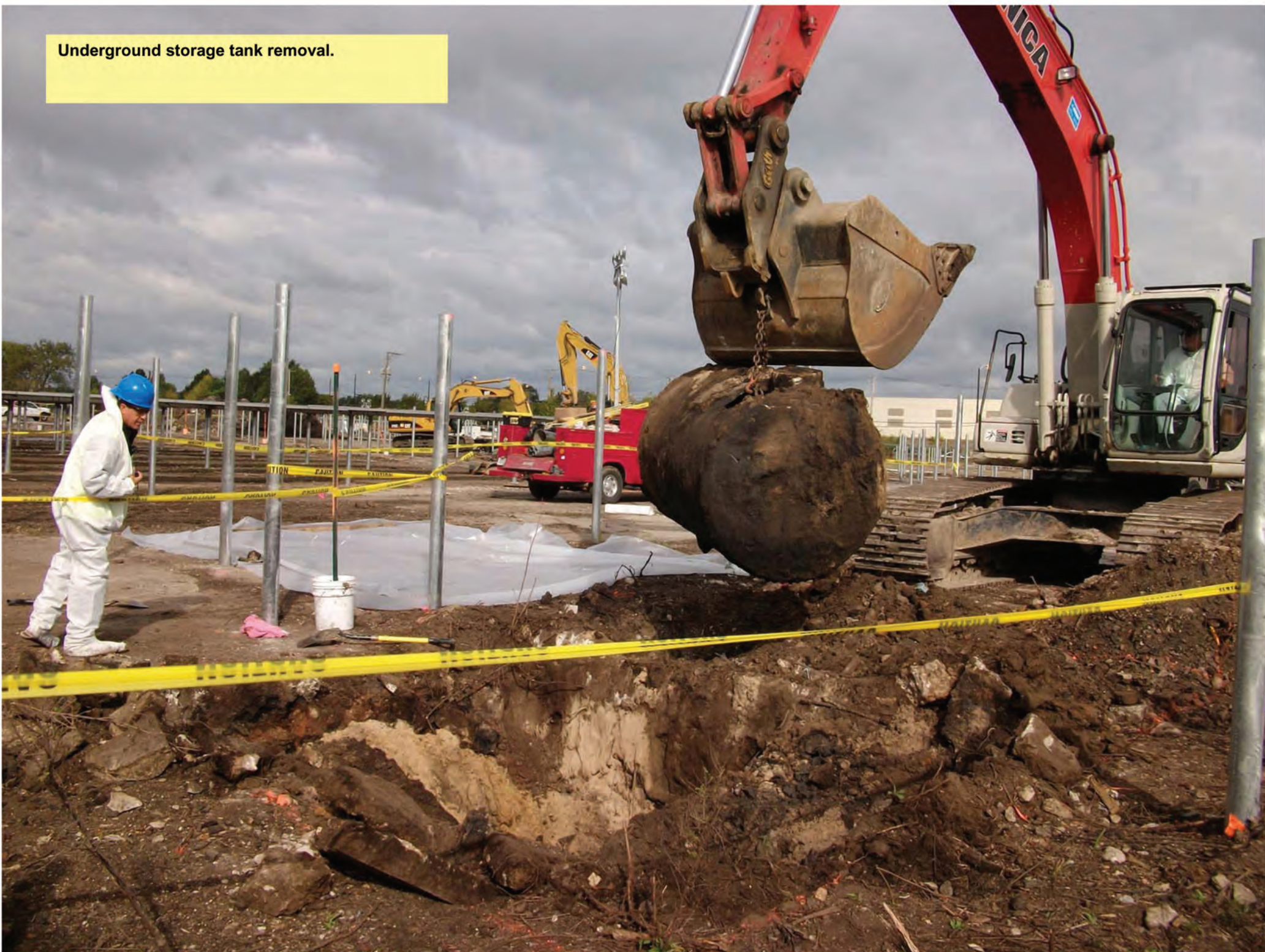


**Typical site conditions before development showing water-filled vaults.**





Underground storage tank removal.





**Operations and Maintenance Building's green roof.**





Typical site grading after development. Image also shows new fencing and perimeter berms.





ACEC-IL Awards Luncheon  
February 4, 2011





### EMINENT CONCEPTOR AWARD WINNER

#### ► Energy

##### **Environmental Design International inc.**

##### **Exelon City Solar**

**Owner:** Exelon Solar Chicago, LLC

**Consultants:** Turner Construction / Jacobs|Ryan Associates / Perry and Associates, LLC

In 2009, Exelon Corporation contracted SunPower Corporation to build a solar power plant on a 41-acre brownfield in Chicago's West Pullman neighborhood. Environmental Design International inc. (EDI) played a significant engineering role providing site civil engineering, environmental, and survey services for Exelon City Solar, a 10-megawatt solar power plant. With an aggressive construction schedule and a site wrought with challenges, EDI provided an innovative, low-impact site design, along with crucial environmental expertise that aided in this high-profile project's success. The plant, which came on line in March 2010, is expected to produce enough electricity to power an estimated 1,500 homes annually.







AMERICAN COUNCIL OF ENGINEERING COMPANIES

February 8, 2011

Mrs. Deborah M. Sawyer, CHMM  
Environmental Design International, Inc.  
33 W Monroe St  
Suite 1825  
Chicago, IL 60603-5300

Dear Mrs. Sawyer:

Congratulations! Your firm's project, "Exelon City Solar," has earned a National Recognition Award in the American Council of Engineering Companies (ACEC) 2011 Engineering Excellence Awards (EEA) competition—the "Academy Awards of the engineering industry." The National Recognition Award is a prestigious distinction honoring projects that do not earn an Honor or Grand Award, but nonetheless demonstrate exceptional achievement in engineering.

Your firm and client will be recognized during the EEA Gala awards program and dinner on Friday, April 1, 2011 at The Grand Hyatt Hotel in Washington, D.C. Your project will appear in a scrolling video presentation of all award winners at the Gala dinner. You will have your etched crystal award proudly on display at your dinner table, and along with all other National Recognition Award winners, you will be recognized from the podium.

Formal photographs of National Recognition Award winners will take place beginning at 4:45 p.m. on Friday, April 1, before the Gala program, in the Grand Hyatt's Franklin/McPherson Room. We ask that representatives from both your firm and client take part in the photo session. Because of time constraints, we request that no more than six (6) representatives from the firm and/or client take part in the formal photograph.

The EEA reception will begin at 6:00 p.m. followed by the Gala at 7:00 p.m. Enclosed is the registration form for representatives of your firm and for the client to attend the formal photograph session and the EEA Gala. Also enclosed is a fact sheet.

Please complete and return the registration form by Tuesday, March 1, 2011 to Daisy Nappier at ACEC headquarters. You may contact her at (202) 347-7474 or by email: [dnappier@acec.org](mailto:dnappier@acec.org) if you have any questions.

We also encourage you to maximize your firm's public recognition by advertising in the special May/June issue of *Engineering Inc.*, which will highlight this year's EEA award winners. Contact Nina Goldman at (202) 347-7474 or by email: [ngoldman@acec.org](mailto:ngoldman@acec.org) if you have any advertising questions.



Mrs. Deborah M. Sawyer, CHMM  
February 8, 2011  
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Once again, congratulations on receiving a National Recognition Award, and we look forward to seeing you in Washington, D.C., on April 1<sup>st</sup>.

Sincerely,

A handwritten signature in cursive script, appearing to read "Gerald Stump".

Gerald Stump  
ACEC Chairman

A handwritten signature in cursive script, appearing to read "David A. Raymond".

David A. Raymond  
ACEC President and CEO

Enclosures

cc: ACEC/Illinois



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# *Chicago's South Side Goes Solar*

*An abandoned industrial site in Chicago, Ill. received a \$60 million makeover into an award-winning solar power plant.*

By Lauren Felechner and Carina Calhoun







**M**easuring 10 megawatts and located in Chicago's South Side stands Exelon City Solar, a giant power plant that provides enough electricity for about 1,500 homes. Taking the title as the nation's largest urban solar power plant, the development of this monstrosity began in March 2009 when Exelon Corporation contracted California-based SunPower Corporation to build the plant on a previous industrial site measuring 41 acres. In March 2010, Exelon City Solar was completed with more than 7,000 steel piers installed that were required to mount the even greater 32,328 solar panels by Environmental Design International Inc. (EDI).

EDI served as the Engineer of Record for the project hired by SunPower and provided site civil design, geotechnical engineering, environmental investigation and land surveying services. Deborah M. Sawyer, president and CEO of EDI put Exelon's capability in producing enough energy for 1,500 homes into perspective by comparing it to, "...Eliminating approximately 30 million pounds of greenhouse gas emissions annually." Sawyer explained, "By choosing [former industrial] site, Exelon took a brownfield and redeveloped it in a very environmentally-friendly way."

Coming in under budget, the original project budget was set by a turnkey contract between Exelon and SunPower at \$63 million and was completed with \$60 million. This plant not only brought energy to nearby communities, but it brought life back to the West Pullman neighborhood that was once a thriving location for industry in Chicago. After the initial removal of several toxic waste-filled 55 gallon drums, followed a number of physical improvements to the 41-acre, disowned site that included: the removal of three underground oil storage tanks; the halt on the site being used as a dumping ground and removing exposed water-filled basements, cisterns and underground vaults. According to John J. Murphy, the senior project manager of Exelon, the site was enhanced replacing the original, dilapidated chain link fence with more architectural one, and adding a Visitor's Center and 24-hour security surveillance on-site. He said, "We believe that cleaning up and redeveloping the site to generate environmentally-friendly power was a productive use of the property." He continued, "We also saw this as an opportunity to help beautify and revitalize West Pullman an area where industry once thrived."

With the use of cutting-edge solar technology, it is n

**LEFT:** Environmental Design International (EDI) Inc. mounted 32,328 solar panels on the site.

**ABOVE LEFT:** Exelon City Solar measures 10 megawatts and provides enough electricity to about 1,500 homes.

**ABOVE RIGHT:** Exelon City Solar was completed with more than 7,000 steel piers constructed during installation.

**RIGHT:** California-based SunPower Corporation built the plant on a previous industrial site measuring 41 acres.







**ABOVE LEFT:** Exelon City's Solar use of cutting-edge solar technology with their newly-designed solar panel with increased efficiency allowing for a reduction of nearly 300 panels across the site.

**ABOVE RIGHT:** This project created at least 200 temporary jobs during the manufacturing, material supply and construction processes with local residents being trained and used for at least half of the working hours.

## Project Team

### Builder:

SunPower Corp.

### Developer:

Exelon Generation

### Engineer:

SunPower Corporation, Systems

### Green:

Environmental Design International Inc.

### Project Manager:

Turner Construction Co.

**“By choosing the [former industrial] site, Exelon took a brownfield and redeveloped it in a very environmentally-friendly way.”**

— Deborah M. Sawyer, president and CEO of EDI

wonder that Exelon City Solar gained recognition as a multi-award winning project. SunPower's rotating panels that “follow” the sun using a proprietary single-axis design also increases the sunlight intake up to 25 percent; their newly-designed solar panel with increased efficiency allowing for a reduction of nearly 300 panels across the site; and their patented solar cells that are about 50 percent more efficient than typical cells are among the roster of brag-worthy components that the project employs. It is safe to say that the project is very much deserving of its 2011 Honor Award, 2011 Eminent Conceptor Award by the American Council of Consulting Engineers of Illinois, alongside its national recognition by the American Council of Engineering Companies (ACEC).

A project of this magnitude does not come to be without challenges. Therefore, it is a good thing that the City of Chicago's Department of Environment remained involved as they aided in the necessary developmental solutions, according to Murphy, “For example, when the underground oil storage tanks were discovered, they quickly assessed the situations, published a strict list of requirements that needed to be adhered to, and coordinated the permits that the contractor needed to safely remove and dispose of the tanks.”

Although the site used for Exelon City Solar was not quite up to par, EDI still wanted to provide a low-impact

design by turning the previous industrial site's abandoned slabs, foundations and basements into potential roads, anchoring points for solar arrays and stormwater detention vaults. Despite the fact that this project is the nation's largest urban solar plant, it still managed to make less of an impact up until completion.

With its initial creation of at least 200 temporary jobs during the manufacturing, material supply and construction processes, local Chicago residents were trained and used for at least half of the working hours for the development of Exelon City Solar. This project continues to give back past its completion date as SunPower facilitates the location to aid in training development and apprentice programs in the Chicago area that will ultimately help supply trained technicians for future solar industry projects in not only Chicago, but statewide across Illinois.

Exelon City Solar missed no power producing deadlines and continues to stand as a testament and set an example for future urban renewable energy sources.

**Lauren Felechner** is an editorial assistant at American Infrastructure and may be contacted at [lfelechner@penpubinc.com](mailto:lfelechner@penpubinc.com)  
**Carina Calhoun** is an assistant editor at American Infrastructure and may be contacted at [ccalhoun1@penpubinc.com](mailto:ccalhoun1@penpubinc.com).





Office of the Mayor  
**Richard M. Daley**  
Mayor

## News Release

July 21, 2010

Contact:

Mayor's Press Office  
312-744-3334

### **MAYOR DALEY, EXELON OFFICIALS DEDICATE SOLAR ENERGY PLANT IN WEST PULLMAN COMMUNITY**

*Clean Energy an Important Part of Chicago's Future Economy, Mayor Says*

Mayor Richard M. Daley today joined Exelon officials and community members for the dedication of the company's new solar power plant – the largest such urban installation in the country.

"In Chicago, the environment is a major component of our strategy to attract people and jobs, remain competitive in the global economy into the future and improve the quality of life for all our residents," Daley said in a news conference held at the plant, 1201 W. 120<sup>th</sup> St.

"We are strongly committed to investing in green businesses and industries, because clean energy and green technology will be a major part of the new economy that emerges from the current recession," the Mayor said.

Daley said the City's economic future is directly linked with its efforts to be a national leader in protecting and enhancing our natural resources.

"Our challenge now is to seize the future and the opportunities it offers. So today I am happy to be here to help dedicate a part of that future -- Exelon's new solar power plant," he said.

Daley said the City's Climate Action Plan – its detailed strategy to help lower greenhouse gas emissions and address climate change throughout Chicago – calls for moving to cleaner power sources and procuring enough renewable energy generation to reduce by 20 percent the carbon emissions caused by generating electricity by 2020.

He said the new solar plant moves the City toward that goal and makes an impact in several important ways:

- The 32,000 solar panels, designed and installed by SunPower Corporation, produce enough electricity to power 1,500 homes, with zero carbon emissions.

City Hall, Room 502 121 North LaSalle Street Chicago, Illinois 60602  
(312) 744-3334 FAX: (312) 744-2325



- It restores to productive use a 41-acre Brownfield site, leased from the City that had been vacant for more than 30 years and which had significant environmental challenges that made it unattractive to other developers over the years.
- It benefits the local economy and the West Pullman community by:
  - Returning the property to the tax rolls.
  - Creating more than 200 construction jobs.
  - Being built using steel tubing and other construction materials sourced from companies on the South Side.
  - Serving as a landmark and source of pride for the West Pullman community.

The Mayor said Chicago will continue to work with the private sector and the federal and state governments and use every tool available to achieve the goals of the Chicago Climate Action Plan.

He pointed out that over the past two years Chicago has become a hub for wind energy companies. 14 wind energy companies have established headquarters here because of the City's manufacturing and transportation capabilities and its proximity to areas with great potential for wind energy.

"This project is a great example of the good things that happen when government and the private sector work together," Daley said.

"But the benefits of the Climate Action Plan go beyond the important goal of improving the environment. The actions that have the greatest impact – such as this project -- will also create jobs, save companies and residents money, enhance our quality of life and position the city and its residents for future economic growth and prosperity," he said.

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# # #



**Chicago Tribune, July 1<sup>st</sup>, 2010**

At a former industrial site on [Chicago's South Side](#), more than 32,000 solar panels slowly tilt every few minutes, following the sun as it moves across the sky.

Operated by Exelon Corp., the 40 acres of panels in West [Pullman](#) is the nation's largest urban solar plant, generating 10 megawatts of clean power and hope for an Illinois industry that has long waited for its moment in the sun.



Panels at the SunPower solar plant in [Chicago's West Pullman](#) neighborhood. (Tribune / José M. Osorio)

"We have been frustrated over the years that solar has not become more mainstream," said Kevin Lynch, who trains electricians to install solar panels for the International Brotherhood of Electrical Workers. "We understand it's still a relatively expensive technology, but the cost is much less than it was a few years ago."

Indeed, the biggest obstacle to the growth of solar energy -- its cost -- has started to decline. The price of photovoltaic solar panels dropped more than 40 percent last year due to a glut in global supply, according to the Solar Energy Industries Association.

The drop in price is driving renewed interest in solar energy, said Howard Learner, executive director of the Environmental Law and Policy Center.

Last month, Illinois lawmakers passed legislation that will double the state's solar power supply each year and create an estimated 5,000 "green" jobs by 2014. Meanwhile, at least three solar developers have plans to build solar projects of 10 to 20 megawatts in Illinois, Learner said.

To be sure, Illinois is not quite the solar-powered mecca of California or Florida. But the potential is there: The sun in Illinois is more intense than in Japan or Germany, the world's two largest solar markets.

"Illinois has the opportunity to be a very significant solar energy leader between the two coasts," Learner said.

Nationwide, there are more than 22,000 megawatts of large-scale solar projects under development, or enough to power 4.4 million homes. And government incentives are helping



drive the industry. A 30 percent manufacturing tax credit has resulted in the construction of 58 new facilities to produce solar energy equipment, according to Jared Blanton, a spokesman for the Solar Energy Industries Association.

In Illinois, unions are preparing for the anticipated demand. At an apprentice school in [Alsip](#), Lynch trains about 200 electricians a year to work in the solar industry. His students are hoping to follow in the footsteps of Jim Amedeo, the site supervisor at Exelon's West [Pullman](#) plant.

Amedeo, who once ran data centers for Internet and telephone companies, now spends his days checking the position and quality of solar panels to make sure they are absorbing maximum sunlight.

"I'm glad I got in at the beginning of a growth industry," said Amedeo, who works for SunPower Corp., which designed and operates the facility. "Solar is ready to take off here in the United States."

But the promise of "green" jobs should not be seen as a panacea for unemployment, Lynch said. Exelon's West [Pullman](#) plant, for example, created about 200 jobs, but only during the six months of construction, he said.

"It certainly wasn't something that went on for years," Lynch said.

In Illinois, much of the focus on renewable energy will still revolve around large-scale wind farms. Power companies in the state must get at least 25 percent of their electricity from green sources by 2025. Of that amount, 75 percent must come from wind, while only 6 percent must come from solar, said Mark Burger, president of the Illinois Solar Energy Association.

Solar power still needs more legislative support before it can thrive in Illinois, proponents say. For one, they say, Illinois needs to change the rules that determine how solar producers are paid for exporting clean energy to the grid -- a process known as net metering.

The current rules have utilities paying higher prices to smaller solar producers than larger producers. A measure in Springfield that would have required utilities to pay retail prices to larger solar producers did not pass.

Still, solar proponents see hope for the future in Exelon's solar plant, which began operating in December.

To finance the \$62 million project, Exelon took advantage of local real estate and federal tax incentives. The company hopes to recoup more costs by eventually selling solar renewable energy credits. For a company that has staked its future largely on nuclear reactors, the solar plant is a learning experience.

"We look forward to learning lessons on how this operates," Exelon spokesman Paul Elsberg said. "This is really our first foray into solar power."

The facility has generated a range of benefits for the local economy. The solar panels sit on metal poles created by Fabricating and Welding Corp., less than a mile away. And the site itself, which sat abandoned for 30 years, is now back on the city's tax rolls.

The solar plant generates enough electricity to power about 1,500 homes, and its clean power means less greenhouse gases are emitted, the equivalent of taking 2,500 cars off the road each year.



But with unemployment remaining high, new solar projects such as Exelon's are being measured as much for the jobs they create -- even if only temporary -- as the pollution they avoid.

"These were actual construction jobs, with decent wages, health insurance and pensions," Lynch said. "And there's going to be clean energy coming from that site for years and years to come."

--*Gerry Smith*

#### **SIDEBAR: Installing a solar power system at home can be a good investment**

A few years ago, Jim Camasto thought about investing \$20,000 in the stock market.

But instead, Camasto, 43, of Naperville, spent that money on a safer, "greener" investment -- solar power.

Camasto has installed a solar thermal and solar electricity system on his roof, which helps heat and power his home.

His gas use has dropped more than 50 percent, and his electricity use has dropped about 70 percent. He sells extra power back to the electricity grid and sells renewable energy credits, which investors buy and trade to support renewable energy projects.

His return on his investment is about 3 or 4 percent a year.

"Some people say that's a slow return," he said. "But I'm willing to bet utility costs are not going down in the next 10 or 15 years. There's very little risk. I'm glad I made the investment."

Although the price of solar panels is falling, the upfront costs of installing a solar power system can still be daunting. However, there are incentives designed to help finance renewable-energy projects.

Illinois offers 30 percent rebates on the total cost of installing solar or wind systems to homeowners and businesses, and 50 percent rebates for governmental and nonprofits, with a maximum of \$50,000, said Marcelyn Love, a spokeswoman for the Illinois Department of Commerce and Economic Opportunity.

Also, there are federal tax credits for up to 30 percent of costs available to homeowners and businesses that buy solar or wind energy systems. And there are grants available to state and local governments and nonprofits through the Illinois Clean Energy Community Foundation, Love said.

Legislation introduced in Springfield would have allowed local governments to give loans to homeowners or business owners for solar installations and allowed them to repay the loans as assessments on their property tax bill. But the bill did not pass.

Mark Burger, president of the Illinois Solar Energy Association, said installing solar power is like making a major home improvement, with the cost being roughly equal to adding a new bathroom or remodeling a kitchen.

It's a buyer's market, Burger said, and a solar-powered house that promises reduced utility bills for years can be a major selling point.



"Developers are realizing that putting solar on homes to make them more 'green' is the only way to save the real estate market," Burger said.

--*Gerry Smith*



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July 22, 2010

BY [SANDRA GUY](#) [sguy@suntimes.com](mailto:sguy@suntimes.com)

As Exelon celebrated completion of the nation's largest urban solar-power plant, the next-door neighbors in West Pullman celebrated a new life for a former polluted industrial site.

The plant began operating in December, with all 32,292 panels tested and in service in March, and final site work just completed.

"The solar plant has upgraded this community," said Dannese Flennoy, secretary for the Victory Heights-Maple Park Community Advisory Council, the neighborhood group that worked with politicians and Exelon to see the solar plant to fruition.

The former International Harvester property -- now the solar plant -- had become an eyesore, a health hazard and a dumping ground for other communities' old tires and other debris.

"There should be some direct benefit to the people in this community, both in our utility bills and in going green," said John Chenier, a 36-year resident and co-chairman of the advisory council.

R.C. Hardy Jr., also a 36-year resident, said the neighborhood hopes to see one or two homes outfitted with a rooftop solar panel as part of a pilot program, and intends to work to upgrade other vacant sites.

"We want to get the whole community to go green," Hardy said.

He said neighbors now want to see a former paint company industrial site just east of the solar plant and a former steel plant site on 122nd Street transformed, too.

### [Southern California Goes Solar Plant](#)

From Yanko Design

### [Entergy & Exelon retreat from new builds](#)

From Idaho Samizdat: Nuke Notes

The views expressed in these blog posts are those of the author and not of the Chicago Sun-Times.



## Exelon plans to build solar power plant on Chicago's South Side

Company would rely on Energy Department loan guarantees for \$60 million project

By Joshua Boak | Tribune reporter **April 22, 2009**



An aerial-view rendering of the proposed Exelon Chicago Solar Power Plant. (Exelon

Exelon Corp. will unveil on Wednesday plans to build a \$60 million solar power plant on Chicago's South Side, a small step to fighting climate change that leans heavily on government funding due to the high cost of turning sunlight into electricity.

"It's a way to start participating in renewable energy," said Tom O'Neill, Exelon's senior vice president of generation development. "Ultimately, we are putting 10 megawatts of electricity on the grid. It's not much. But you've got to start somewhere."

Solar power won't replace coal power plants anytime soon. The unaffiliated coal-fired Crawford plant in Chicago has a capacity that is 50 times greater than the Exelon solar project, which would be constructed only if the company qualifies for federal Energy Department loan guarantees.

America gets about one-ten-thousandth of its electricity from the sun, according to the Energy Department. There's room for growth.

But reducing the price of solar panels to a competitive level is the challenge. To produce the same amount of electricity, solar panels are four times more expensive than building a natural gas plant; and three times more expensive than a nuclear plant, according to recent analysis



(April 22, 2009 Exelon Plant, continued)

Moody's Investor Service, the debt ratings agency.

Still, utilities are pushing forward with solar projects, figuring the price tags could drop as solar power becomes more popular.

Whenever the number of solar panel installations doubles, the associated costs drop by 20 percent, said Ken Zweibel, director of the Institute for Analysis of Solar Energy at George Washington University. On average, installations double every 30 months.

"As the size of market increases, manufacturers can ramp up production and drive down cost," said Julia Hamm, executive director of the Solar Electric Power Association.

Orders are streaming in. Florida Power & Light Co. said this month that \$350 million worth of solar panels could meet the electricity needs of a planned city there. Pacific Gas and Electric Co. announced in February a program to develop up to 500 megawatts of solar power for northern and central California.

New Jersey also has a sunny outlook on solar power. Its Public Service Electric and Gas Co. proposed in February a \$773 million project to install solar panels on streetlights and public schools, among other locations. Due to federal tax credits and state incentives, the average PSE&G residential bill of \$1,270 a year would increase by about \$4 if officials approve the project.

The advantage of solar power is panels do not have to be clustered in one location, unlike a nuclear, gas or coal plant. Exelon would install 32,800 panels on a 39-acre former industrial site in Chicago's West Pullman neighborhood, the largest project in a U.S. urban center.

The SunPower Corp.-made panels would track the sun's path, maximizing exposure. Gray Chicago skies should not be an obstacle, said Julie Blunden, vice president of public policy for SunPower.

"Chicago has better sun than Germany," Blunden said. "And Germany is the largest solar market in the world today."

The economic stimulus package made funds available for more solar power projects. The Energy Department can guarantee the loans used to pay for construction. So Exelon can explore renewable energy, even though the parent of Chicago utility Commonwealth Edison Co. has staked its future on expanding its fleet of 17 nuclear reactors.

"We're a nuclear company," said O'Neill. "But we know which way the wind blows, no pun intended. Nothing is off the table."





**ABOVE:** The 10-megawatt solar electric plant is proposed for this area on the South Side. **Below:** Looking southeast from 120th Street at a large section of property that might be the site of the new Exelon facility. | SCOTT STEWART~SUN-TIMES (BELOW)

## BIGGEST IN URBAN U.S. | Planned solar power plant could supply 1,200-1,500 homes

BY CHERYL V. JACKSON  
cjackson@suntimes.com

ComEd parent Exelon Corp. plans to build the nation's largest urban solar power plant on the city's South Side by year's end.

The \$60 million project is expected to create about 200 temporary construction jobs and 10 to 15 permanent positions at the plant. The project is contingent upon Exelon getting a federal loan guarantee for up to 80 percent of its cost under the federal stimulus package that is doling out money for green jobs and emissions reductions.

The planned 10-megawatt solar photovoltaic building would be at an industrial site near 120th and Peoria in the West Pullman neighborhood,



Chicago-headquartered Exelon said Wednesday.

The plant's 32,800 solar panels would convert the sun's rays into enough electricity to meet the annual energy requirements of 1,200 to 1,500 homes. It would eliminate about 31.2 million pounds of greenhouse gas emissions a year, the equivalent of taking more than 2,500 cars off the road or planting



more than 3,200 acres of forest, Exelon said.

"This is exactly the type of shovel-ready, community-benefitting project that the Obama administration is touting," said Thomas O'Neill, senior vice president for new business development at the company's Exelon Generation.

California-based SunPower Corp. will design, manufacture,

install and operate the plant.

Owner Exelon will market the electricity, and for each megawatt produced, it gets a renewable energy credit.

Exelon expects a decision on the guarantee in June.

The company is negotiating with the city to lease about 39 acres of the West Pullman Industrial Redevelopment Area. **Comment at [suntimes.com](http://suntimes.com).**



